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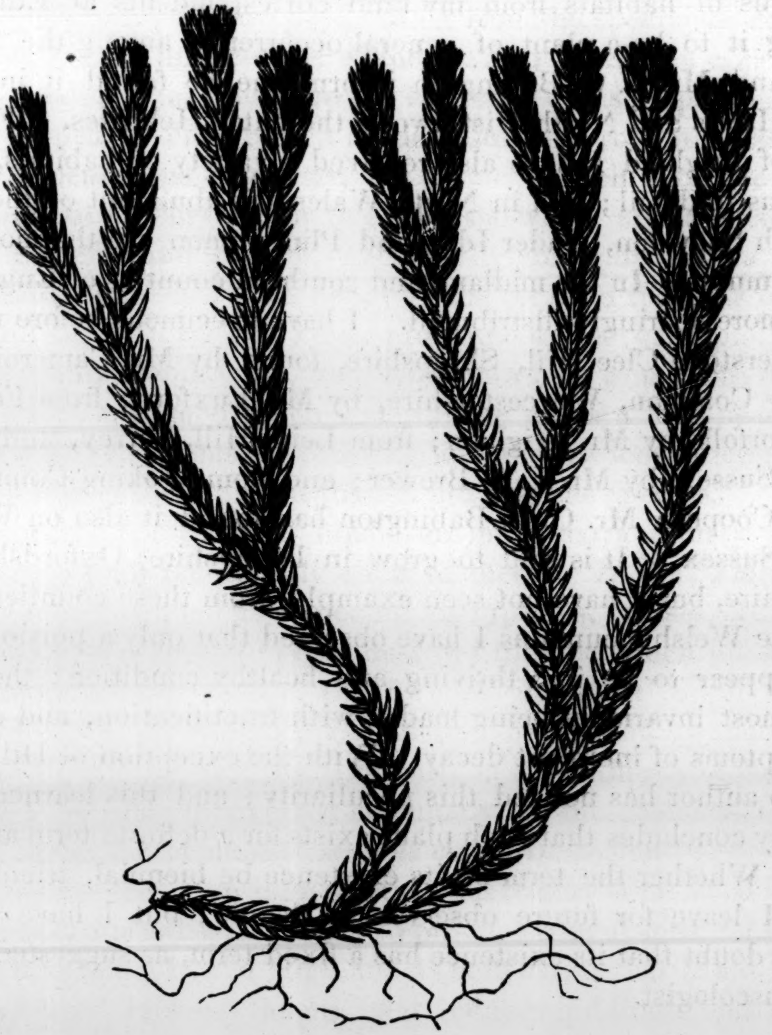
Art. XXXI.—*A History of the British Lycopodia and allied Genera.*

By Edward Newman. (Continued from page 67).



THE FIR CLUB-MOSS.

Lycopodium Selago of Authors.

LOCALITIES.

England.
Wales.
Scotland.
Ireland.
} In all our mountain districts.

The Fir Club-Moss, next to the common Club-moss, is the most abundant of our British species; it is however almost exclusively confined to alpine districts, growing on bare and bleak mountain slopes, or occasionally rooted in the fissures of rocks. I found it abundantly in the Western Highlands of Scotland, and have received specimens or records of habitats from my kind correspondents at Edinburgh, showing it to be a plant of general occurrence among the Scottish hills; and Mr. C. C. Babington informs me he found it in August last in Harris and North Uist, two of the outer Hebrides. From the North of England I have also received a variety of habitats, far too numerous to detail; and in North Wales it is abundant on the ranges of which Snowdon, Cader Idris and Plinlymmon are the more notorious summits. In the midland and southern counties of England we find it more sparingly distributed. I have specimens before me from the Titterstone Clee Hill, Shropshire, found by Mr. Cameron; from Moseley Common, Worcestershire, by Mr. Luxford; from Felthorpe Bog, Norfolk, by Mr. Wigham; from Leith Hill, Surrey, and Tilgate Forest, Sussex, by Mr. J. A. Brewer; and from Woking Common, by Mr. D. Cooper: Mr. C. C. Babington has found it also on Waldron Down, Sussex. It is said to grow in Derbyshire, Oxfordshire and Devonshire, but I have not seen examples from these counties.

On the Welsh mountains I have observed that only a portion of the plants appear to be in a thriving and healthy condition; the larger ones almost invariably being loaded with fructification, and exhibiting symptoms of incipient decay. With the exception of Dillenius I think no author has noticed this peculiarity; and this learned writer rationally concludes that each plant exists for a definite term and then dies.* Whether the term of its existence be biennial, triennial, or longer, I leave for future observers to decide; but I have not the slightest doubt that its existence has a fixed term, as suggested by the great muscologist.

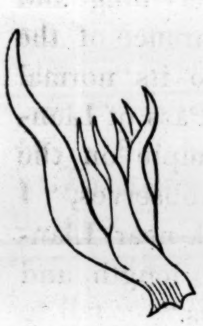
* Quum ante 14 annos montes Cambriæ plantarum gratia peragrarem, Augusti fine, plures plantæ semiaridæ et quædam mortuæ mihi visæ sunt, cum initio hujus mensis omnes virerent; id vero tam in majoribus quam in mediæ magnitudinis plantis mihi observatum. Ex quo singulas aliquot annos durare et postea interire conjicio. Dill. 'Hist. Musc.' 436.

The figures of this plant can scarcely fail of being characteristic, its appearance is so different from that of our other species: Dillenius figures several varieties, all of them very expressive of its distinguishing features. These varieties appear to be the result of locality: when last at the Birmingham Botanic Garden, Mr. Cameron called my attention to some living specimens which he had himself collected on the Titterstone Clee Hill; in these the lower leaves were considerably narrower and somewhat reflexed, and the plants (as indeed do all from the same locality) exhibited a uniform although scarcely describable difference from those of Scotland, the North of England, and Caernarvonshire; and these again differ from the specimens collected in Norfolk, Sussex and Surrey, which are also of uniform appearance, of much smaller size, and have the branches obtusely pointed rather than flat-topped. When rooted in the fissure of a rock it occasionally assumes a pendulous character, the branches being very long and their extremities recurved; in this state the whole appearance of the plant is graceful and elegant, and totally dissimilar to its normal form; such specimens I have found on the rocks in the Pass of Llanberris, and my brother has lately procured a fine example on the ascent of Plinlymmon. Mr. Babington in a note to me observes, "I have a curious specimen which was growing under a rock near Llanberris, in which the stems are prostrate and about a foot in length, and the leaves less densely placed than is usual in the species."

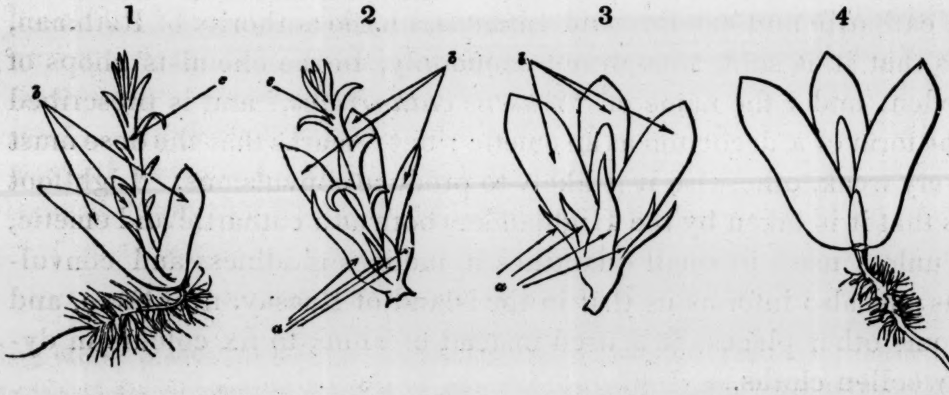
This species has received credit for many extraordinary medical properties; I shall record only a few of these. In the 'Flora Prussica' it is recommended as a specific for ruptures, bruises, &c. Breynius asserts that a decoction of it destroys the lice which infest man; and Linneus informs us that the Swedes employ it to kill those of swine and cattle. Schwenckenfeldius says that is used by countrymen as a cathartic and emetic; and Linneus, on the authority of Rothman, adds that it is sold, though not commonly, in the chemists' shops of Sweden, under the name of "*muscus catharticus*," and is prescribed in the form of a decoction as an emetic; but remarks that the dose must be very weak, otherwise it is likely to produce convulsions. Lightfoot says that it is taken by the Highlanders both as a cathartic and emetic, but unless used in small quantities it induces giddiness and convulsions; he also informs us that in the island of Raasay, near Skye, and in some other places, it is used instead of alum, to fix colours in dying woollen cloths.

The roots are numerous, tough, wiry, tortuous, and often divided. They are emitted from divers parts of the stem, always however where it is in contact with the earth. The plant in its normal form appears to be perfectly erect, but its hold on the ground being apparently insufficient for the maintenance of this position, it generally becomes partially recumbent, as represented in the figure. This change takes place as soon as the plant has risen above the stunted herbage with which it is commonly surrounded, and has thus subjected itself to the action of the violent winds that seem to be almost incessantly sweeping the mountain-sides.

The stems are repeatedly dichotomous, stout, rigid, somewhat flat-topped, and usually erect.



Every part of the plant is densely clothed with rigid, lanceolate, acute, entire leaves, much resembling those of Lycopodium annotinum. At the upper extremity of each branch a portion of these leaves become transformed into irregular 6-cleft calyces or cups, very closely resembling the perichætia of mosses; the outermost lobe of the six which compose this cup is longer and larger than the rest, and of the pair on each side one is generally incumbent on the other, so as nearly to conceal it; this was overlooked by Lightfoot, who, in speaking of the cup, describes it as consisting of "*four* stiff, lanceolate, incurved, minute leaves." This perichætial cup is shown in the margin, and also at *a a*, in figures 2 and 3 of the cut below. Lightfoot, in continuing his description, goes on to say, "at the bottom of this calyx are five small pellucid substances resembling leaves, which are supposed to be analogous to pistils, these in time grow up into three large broad leaves, two united together like the hoof of an ox, &c." I have only examined these parts when in the mature state. Instead of terming the interior processes *leaves*, I should be inclined to say that within each perichætial cup already described, is situated a kind of flattened gemma or bud,



consisting of five distinct lobes or component parts, combined at the base; the three inner lobes are large, prominent and conspicuous, even to the naked eye, (*b* in figures 1, 2 and 3); the two outer lobes are very small, and may easily be overlooked, one of them is closely appressed to the anterior, the other to the posterior surface of the bud.* These buds, which have no representatives in either of the previously-described British species of Lycopodium, are truly the germs of future plants, as each, when mature, is detached from its perichætial socket with the slightest touch, falls to the earth, and germinates with the greatest readiness: figure 4 represents a bud thus germinating; it is drawn from a specimen found in a state of nature. From the under surface of what may be termed the collum or neck of the bud, is protruded a single stout root, at first very pilose, but soon becoming smoother; and in the centre of the three large lobes appears what might readily be mistaken for a sixth and central lobe, but which is, in reality, the undeveloped stem or ascending axis of the young plant. This part is very observable in figures 3 and 4, in the centre of each figure. As germination advances this axis gradually becomes elongated upwards by the successive unfolding of the leaves, which are spirally arranged round it. The stem in this advanced state is shown at *c c*, in figures 1 and 2. When the leaves first unfold at the apex of the stem they are erect, but soon assume a spreading direction, and finally become reflexed.

Whether these buds remain attached to the parent plant or fall to the ground, their germination proceeds in the same manner; for when grown in a closed glass case, a situation which precludes the action of wind and rain, and therefore lessens the chance of their being dislodged, the buds germinate *in situ*, giving to the extremity of each branch a bushy and very remarkable appearance. A single bud thus growing in its perichætial socket is shown at figure 2. A plant from the Titterstone Clee Hill, cultivated by Mr. Luxford in a closed glass, died during the second year, leaving green and vigorous young ones growing on the parent stem. Some of the gemmæ were accidentally detached when the specimen was planted in the glass about twelve months ago; these have vegetated on the surface of the soil and produced young plants, one of which is now more than an inch high.

It appears to me that by these gemmæ the plant is so abundantly propagated in a state of nature, and not by its seeds. In a paper by Sir J. E. Smith, printed in the 'Transactions of the Linnean Society,' Mr. Joseph Fox, of Norwich, is said to have raised young plants of Lycopodium Selago from seed. The record of these experiments appears to me very unsatisfactory, as no detail is given, and I am quite inclined to suppose that the gemmæ were mistaken by that industrious individual for the seeds; if so, his observations have been verified by many subsequent cultivators.*

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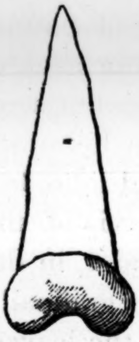
* Dillenius was the first to notice these gemmæ. "Eodem tempore observavi per ramos præsertim superiora versus e foliorum alis, corpuscula cristata, crebra rigida e sex laciniis inæqualibus composita." 'Hist. Musc.' 436.



I have already stated that the perichætial leaves and their buds occur near the extremities of the branches; below them, and in the axils of the ordinary leaves, are produced the true thecæ, each ultimate branch being alike fertile throughout the greater part of its length. The thecæ are sessile, large, yellow, reniform and bivalve; their dehiscence is rectilinear and longitudinal, but rarely takes place in a state of nature. In every plant that I have examined while living, the thecæ have been firmly closed; by pressure however they may be compelled to open, when they are found to be filled with minute yellow seeds. A detached leaf with its axillary theca is represented in the margin.

The Lycopodia of Britain being now enumerated, I think it best to state in answer to some direct enquiries and for the information of botanists generally, that this little monograph will not be reprinted in a separate form. I think it due to the subscribers to 'The Phytologist' to give them this assurance. I take this opportunity of returning my best thanks to those botanists who have so kindly assisted me in the genus Lycopodium, and of soliciting information respecting Isoetes and Pilularia. Among the specimens of Isoetes which I have seen, there appear two constant varieties, unaltered by locality or season; they grow side by side in the lakes of Caernarvonshire. Any information tending to prove that these are or are not species, will be very thankfully received. In order to allow time for communications on these genera, I shall not describe either of them in the December number of 'The Phytologist.'

EDWARD NEWMAN.

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* The passage referred to is as follows:—"Mr. Joseph Fox, a journeyman weaver of Norwich, * * * showed me in the year 1779 young plants of "Lycopodium Selago," raised from seed in his own garden." 'Lin. Trans.' ii. 315.

Art. XXXII.—*List of Plants growing about Settle, Yorkshire.*

By John Tatham, Jun. Esq.

Settle, 10th mo. 16th., 1841.

Respected Friend,

Annexed is a list of plants either seen or gathered lately by myself in the neighbourhood of Settle; shouldst thou think it worthy to be inserted in 'The Phytologist,' thou art quite at liberty to do so.

I remain respectfully,

John Tatham, Jun.

Thalictrum minus. On our alpine limestone hills.
Trollius europæus. Abundant in various localities.
Helleborus viridis and *fœtidus.* Rather scarce, in two localities.
Aquilegia vulgaris. Common in our woods.
Actæa spicata. Abundant on Ingleborough, Gordale and Hesleden Gill.
Papaver dubium. Common about Settle.
—— *Cambricum.* Sparingly on our river bank and at Feizor.
Draba incana. Abundant on our hills.
—— *muralis.* Plentiful about Malham.
Thlaspi alpestre. Very common on our hills.
Cardamine impatiens. Abundant in Crow-nest Wood.
Barbarea præcox. Scarce, in the lane leading to Langcliffe.
Hesperis matronalis. A few plants to be seen occasionally about Settle.
Viola hirta. Very abundant in most of our woods.
—— *lutea,* α and β. On all our hills.
Geranium phæum. Very scarce.
—— *sylvaticum.* Common.
Sedum Telephium. In Winskill Wood, abundant.
—— *villosum.* Common on our moors.
—— *reflexum.* On the rocks above Settle.
Saxifraga granulata and *hypnoides.* Very abundant on our hills.
—— *oppositifolia.* On the east side of Pennyghent.
—— *umbrosa.* In Heselden Gill.
Rhamnus catharticus and *Euonymus europæus.* Abundant in our natural woods.
Hippocrepis comosa. On our limestone cliffs.
Rubus chamæmorus. On Fountains Fell.
—— *saxatilis.* Common in our woods.
Potentilla verna. In Kelkhow Wood.
—— *alpestris.* Near Peter's Castle, Silverdale.
Dryas octopetala. Covering acres of ground on Arncliffe Clouder.
Rosa Doniana. In Helk's Wood.
—— *Borreri.* Brakenbrow, near Settle.
—— *Forsteri.* Sparingly in our hedges.
Ribes alpinum. In Stainforth Wood.
—— *petræum.* Limestone rocks above Gordale, and other places.
Epilobium angustifolium. Rocks above Gordale.

Anthriscus sylvestris. In our rich meadows.
Silaus pratensis, *Pimpinella magna* and *Myrrhis odorata*. Common near Settle.
Galium boreale. Rocks about Gordale.
——— *pusillum*. On all our limestone rocks.
——— *Mollugo*. Common about Settle.
Senecio sarracenicus. At Ingleton.
Cnicus heterophyllus. Abundant in our boggy woods.
Hieracium murorum, var. *maculatum*. Under Giggleswick Scarr.
Symphytum tuberosum and *officinale*. Both rather scarce.
Lithospermum officinale. On our Limestone cliffs.
Anchusa sempervirens. In several places near Settle.
Polemonium cæruleum. Abundant about Malham and the hills above Settle. The white variety occurs below Weathercoat Cave.
Ligustrum vulgare. Abundant on our limestone cliffs.
Primula elatior. In our woods.
——— *farinosa*. In very great profusion in the pastures above Settle.
Mentha rubra. Banks of the river about the Willow Islands.
Daphne Mezereum and *Laureola*. In the woods at Feizor.
Polygonum viviparum. In the pastures about Feizor.
Quercus sessiliflora. Common in our woods.
Juniperus communis. In the alpine woods about Wharfe.
Taxus baccata. On our limestone cliffs.
Listera cordata. On the Rye-loaf hill.
Epipactis latifolia, *β*. Very abundant under Giggleswick Scarr, &c.
Habenaria albida. Abundant in Brakenbrow, Brock holes and Tarn field.
Allium oleraceum. On our limestone hills.
Butomus umbellatus. In the river below Settle.
Convallaria Polygonatum. On our limestone cliffs.
———— *multiflora*. Near Calton.
———— *majalis*. In most of our woods.
Blysmus compressus. Abundant about Malham.
Eriophorum polystachion and *angustifolium*. On Cockit Moss.
————— *pubescens*. In the Tarn field.
Carex fulva. Abundant in the Tarn field.
—— *remota*, *flava*, *binervis* and *pallescens*. Common in various localities near Settle.
Elymus europæus. In Cave-hole Wood.
Phleum pratense, viviparous, two specimens obtained near the bank of the Ribble.
Aira cristata. Very common on our hills.
Melica nutans. Abundant in four localities.
Sesleria cærulea. On all our limestone rocks.
Festuca vivipara. Very abundant on Fountains Fell.
Poa rigida. Under Giggleswick Scarr.
Avena pubescens, *pratensis* and *alpina*. Abundant about Settle.
Polypodium Phegopteris. In Cave-hole wood.
————— *calcareum*. Abundant on our hills.
Aspidium rigidum. On the rocks above Settle, at an elevation of 1500 feet.
———— *Lonchitis*. Sparingly in the same place.
———— *Oreopteris*. Abundant above Swabeck.

Cystea dentata. Very common.
—— *angustata.* Scarce, in three places, viz., Gordale and Attermire Scarrs, and Catterick Force.
Asplenium viride, and the ramose variety, very common.
Grammitis Ceterach. On the rocks above Malham Tarn.
Botrychium Lunaria. Abundant in Tarn-field pasture.

Art. XXXIII.— *Varieties.*

52. *Botany of the Isle of Man.* I am anxious through your pages (for all which, yet published, I heartily thank you) to turn the attention of British botanists to a tract, small indeed in extent, but of much importance in the Geography of British plants, I mean the Isle of Man. Whether the geographical and geological relations of that island oscillate between the three neighbouring countries—England, Scotland and Ireland, as much as we know that it formerly gloried in making its politics do, I shall not stay to enquire, but proceed to the only subject with which 'The Phytologist' can have anything to do. It seems to me then that the Isle of Man, lying as it does with relation to England, Scotland and Ireland, should be no bad field in which to look for connecting links between the Floras of those three countries; and one or two hurried excursions made there confirm that belief. It is thirty miles West of St. Bees, the nearest point in England; sixteen miles South of Burran, the nearest in Scotland; and twenty-seven East of Strangford, which is the nearest point of Ireland: so that if mere geography, or at least geographical position, were to guide our conjectures, it would be, *à priori*, a matter of guess more than of reasoning, to which of the three the Isle of Man, in its Flora, would bear most relation. Midway between the very northern part of England and that part of Ireland where its middle parallel of latitude would cross it, and much nearer to Scotland than either, we find, first, two plants decidedly characteristic (I believe) of Ireland and the South of England; and the third and prevailing one equally characteristic of Scotland. The two former are, first, Pinguicula lusitanica, still to be found in bogs West of Douglas, and Adiantum Capillus-Veneris, *formerly* growing at Glen Maij, near Peele; while the prevailing fern of the glens throughout the Isle is Osmunda regalis, of which I have repeatedly gathered fronds seven and eight feet in length. The little history of Adiantum Capillus-Veneris as a Manx plant, is curious, and to me, who love plants for their own sake, vexatious; and illustrates what, I dare say, Mr. Newman and the author whom he quotes in his own account of Asplenium lanceolatum, intended by "the ravages of unprincipled botanists," (British Ferns, 66). Some years ago, I think in 1835, I found this graceful fern completely roofing a small cave on the left of the glen below the waterfall at Glen Maij; and sharing with my companion the pleasure of having made this discovery (as I then thought it), I communicated it to a few brother botanists; one of whom, in return for my information, told me that it was no new discovery, for that the station was given in the 'Flora Scotica' a long while ago; so it was, as I afterwards found, and it was given on the authority of one "*Mr. Clark.*" About two years ago, when on my way home from the county of Kerry, Dr. Wood, of Cork, most obligingly showed me his ample and well-kept herbarium of British plants, where one of the first things I found was "Adiantum Capillus-Veneris. Glen Maij, Isle of Man," with the date of (I think) 1809. This I took as a knock on the head to my

claim, but was glad of it still, as establishing the plant's true nativity. But now for the catastrophe: when I revisited the Glen last year for the pleasure, chiefly, of seeing this fern, I found my friends had loved it to death;—it was gone!—gone so completely that I thought I had mistaken the cave, and looked about for some other; but when I came back to look at least at the spot where I *had* seen it grow, I discovered a morsel of a frond yet clinging on: this I carefully carried home, and planted under a closed glass, where it is now growing and spreading most vigorously, but in the Isle of Man I fear it grows no more. I have one or two notices yet to offer on the plants which are found, and of some which are *not* found, in the Isle of Man: but must for the present postpone them. —*F. F. Clark; Hartshill, near Newcastle, Staffordshire, August* 21, 1841.

53. *Hymenophyllum Wilsoni* has been found here this summer, on the Old Man, where it grows on wet rocks, hidden from sight by the luxuriant growth of Cryptogramma crispa. In many such situations it is found, but not in great abundance. In one other situation we have found it at a comparatively low elevation, on a large moss-covered stone, standing in, but not overflowed by, a mountain stream. — *M. Beever; Coniston, near Ambleside, Sept.* 20, 1841.

54. *Lycopodium Selaginoides.* In the course of the summer I have found Lycopodium Selaginoides in almost all our boggy ground, generally growing in Sphagnum.—*Id.*

55. *Lycopodium clavatum.* One plant only grows in a field near the lake, the surface of which is peat and below it gravel. The part in which this plant grows has had the grass removed, and appears to have been burned. It was observed about two months since: there has been no appearance of fructification. The field, which is a large one, has been well looked over, but no other plant has been found.—*Id.*

56. *Lastræa rigida.* I have much pleasure in giving you an opportunity to record in the pages of your interesting periodical a Westmoreland habitat of Lastræa rigida, whence I supplied myself for the first time on the 15th of July, 1840. I believe the station had been known to a gentleman resident in the neighbourhood for many years, but he kept his secret close, lest the exterminating searcher should remove all traces of his valuable discovery. My knowledge of the fern arose from Miss Beever, who, in 1839, sent a few fronds for my opinion, stating her belief that they were Lastræa rigida, which belief Mr. Francis, to whom specimens had also been sent, fully confirmed. The fern grows sparingly on the side of a road leading from Morecambe Bay to Arnside, on the very confines of Westmoreland, and in very great abundance on the southern face of Arnside Knot, a limestone hill which rises northward from that road. Phœnix-like, it springs from the ashes of its parent, without any apparent access to nourishment but what it may receive from the decayed fronds of the preceding year, by which it is surrounded. Its tufts are very dense, each consisting of many hundred fronds, so that I cannot entertain the least fear that it should ever be eradicated. I may remark that, from its less elevated site than near Settle, hitherto the chief source, through Mr. Tatham, of supply to the botanical world, its fructification is more often perfected, and the character of the plant is more fully developed, in the Westmoreland than in the Yorkshire habitat. Nor can I avoid noticing how completely the Arnside plant stamps the correctness of the figure given in Mr. Newman's elegant and valuable History of Ferns. This may have been noticed by those who have received specimens from the Botanical Societies of either London or Edinburgh, to both which I sent several the past year and furnish more the present one.—*Samuel Simpson; Lancaster, September* 29, 1841.

57. *Gentiana Pneumonanthe with white flowers.* I send herewith a white-flowered specimen of Gentiana Pneumonanthe. It was gathered on the 5th of August last, at Poulton-le-Sands, near Lancaster, in the same place as that from which I stored myself in July last year, but where, I fear, ere next summer, the plough will have destroyed the hoard. The plant grew among whins, confined to an area of a very few feet, in the centre of an uncultivated piece of ground. Out of sixty specimens gathered by me this year, about twelve were white; and perhaps the white were in the same proportion to the blue ones last year, but I did not take particular notice. Their appearance in the bright sunshine was most exquisite.—*Id.*

58. *Polygonum dumetorum* grows copiously in the hedges on more than one part of the road from the Woking-Common station to Guildford.—*J. S. Mill; Kensington, October* 3, 1841.

[This is one of those odd plants which we can never expect to find in the same spot two years in succession. At least such is the case so far as we are taught by our observation of its habits in the neighbourhood of Reigate. Previously to the year 1836, when we had the good fortune to detect it, Polygonum dumetorum was not known as a Reigate plant; in the following year it was found in one or two other stations; from one at least of these it has entirely disappeared, but to make amends has sprung up in the greatest abundance in a locality some miles from either of those previously occupied by it. We are always glad to record the stations of such plants, wherever they may choose temporarily to take up their residence.—*Ed.*]

59. *Rarer Plants of the Isle of Wight.* I observed the following less common plants in the Isle of Wight, during a week's tour in July, some years ago.

MARITIME PLANTS.

Matthiola, (no doubt) incana, or Cheiranthus incanus, in inaccessible places on Compton Cliffs, Freshwater Bay. The same plant grows most abundantly in places overhanging the sea on the promontory of Posilipo, and other similar situations near Naples, where it flowers copiously in February, and little children collect bouquets of the plant at great apparent risk, to sell to passers by.

Cakile maritima
Adenarium (Arenaria) peploides
Pyrethrum maritimum (Ryde)
Convolvulus Soldanella (sands near Yarmouth)
Salsola Kali (Ryde)
Atriplex littoralis
Beta maritima
Euphorbia Peplis (Sandown Bay)
Arundo arenaria
Triticum Nardus

SALT MARSHES NEAR YARMOUTH.

Althæa officinalis
Tamarix gallica
Salicornia herbacea
Chenopodium maritimum

IN A MARITIME BOG AT EASTON, NEAR FRESHWATER.

Ranunculus Lingua
Epipactis palustris
Scirpus maritimus
Cladium Mariscus

MISCELLANEOUS.

Poa bulbosa. Alum Bay.

Mentha rotundifolia. This plant, so common on the continent, but comparatively so unfrequent in England, grows on the Undercliff, in a maritime situation, near Puckaster Cove.

Lathyrus sylvestris and Rubia peregrina. Common in hedges on the Undercliff. The former grows in profusion on the landslip near Bonchurch.

Iris fœtidissima. As common on the Undercliff, and (if I recollect right) in other parts of the island as in Devonshire.

Inula Helenium. By the side of a lane between Yarmouth and Freshwater Bay, but sparingly.

PLANTS COLLECTED SHORTLY AFTERWARDS ON THE COAST OF HAMPSHIRE, OPPOSITE TO THE ISLE OF WIGHT.

Atriplex portulacoides. Abundant in salt marshes at Lymington.

Bartsia viscosa and Fumaria capreolata. Roadside between Lymington and Exbury.

Euphorbia stricta. Cornfields near Beaulieu river.

Campanula hederacea. New Forest, near Ashurst Lodge.

Parnassia palustris, Drosera longifolia and Myrica Gale. In various parts of the Forest.—*J. S. Mill.*

60. *Lathræa squamaria.* I once obtained a very expressive example of the parasitical property of Lathræa. It was attached to a small branch of the root of a poplar, which was closely surrounded by the thick branched roots of the Lathræa, whose tuberous suckers penetrated the root of the poplar. The example figured by Mr. Bowman in the Linnean Transactions, is evidently derived from a young plant. In mine the suckers by which the root of the Lathræa attached itself, were numerously seated upon its principal divisions, not at the termination of the lesser branches merely, but wherever a point of contact between the parasite and its prey existed, there were to be found the suckers.—*W. Wilson ; Warrington, October* 6, 1841.

61. *Sium nodiflorum.* I beg to forward a specimen of Sium nodiflorum with a remarkably long flower-stalk. The umbels of this species are commonly said to be *sessile*, but in this neighbourhood at least, absolute sessility is rare. — *Geo. Sparkes ; Bromley, Kent, October* 11, 1841.

[The umbels of Sium nodiflorum are rarely, we believe, *quite* sessile, and we have observed the peduncle to vary much in length ; in the specimen sent by our correspondent it is about as long as the umbel. The specimen appears to be a portion of a very luxuriant plant.—*Ed.*]

62. *Anagallis cærulea.* With respect to the query at p. 76 of 'The Phytologist,' I may observe that I never found but one plant of Anagallis cærulea near Bromley, and that I have in vain searched the same field for two successive years without finding another. I once met with a solitary plant at Leamington in Warwickshire. The blue in this instance had a distinct shade of violet.—*Id.*

63. *Curious Fern.* Enclosed are specimens of what I consider a very curious variety of Athyrium Filix-fœmina. The original plant was found in the county of Galway, Ireland, by a Mr. Smith, brother I believe to Mr. Smith, curator to the Hull Botanic Garden, where I noticed a vigorous specimen in the course of last summer. During the last two years I have had many opportunities of observing the plant in cultivation, in which state its form appears constant, although grown in a variety of soils and situations. From the great irregularity in the laciniation of the pinnæ I have experienced considerable difficulty in determining its venation, which however appears to agree with that of the normal state of the lady-fern. I have minutely examined a great number of fronds, but can discover no traces of fructification. In the herbarium of a friend I have seen specimens of an unusual form of A. Filix-fœmina collected in Staffordshire, which agree with the one under consideration in the irregularity of size and cutting of the pinnulæ, but are without any division or branching of the rachis; they likewise agree in the dwarfish habit and permanent barrenness of the fronds.

The plant grows readily, increasing its roots and putting out fresh fronds much in the manner of shoots, without having any well-defined rhizoma. Finding no allusion to this variety in your valuable 'History of British Ferns,' or in the 'Notes on Irish Natural History,' I have been induced, in the spirit of enquiry, to place these specimens and notes entirely at your disposal, in order that the variety may be assigned to whatever species it may belong, through the medium of 'The Phytologist,' to which, and its promising contemporary 'The Entomologist,' I wish enduring success.—*John Hardy*;* 52, *Trippet Lane*, *Sheffield*, *October* 11, 1841.

[The singular fronds accompanying this obliging letter, evidently partake in some degree of a monstrous or unnatural character, the rachis being often dichotomous and irregularly branched, and the pinnulæ invariably barren. The venation, although uncertain and affording no positively tangible character, evinces a nearer approach to that of Cystopteris fragilis than to any other of our ferns, the veins in the pinnulæ being alternately branched; the size also of the fronds, which do not exceed seven inches in length, and the decurrent pinnulæ attached throughout to the midrib of the pinna, favour this conclusion, as these characters occur not uncommonly in some of the forms of that pretty species.—*E. N.*]

64. *Description of a metamorphosed variety of Polytrichum commune.* On examining some specimens of mosses received a few days ago from Roborough, Devon, my attention was drawn to a remarkable accidental variety of Polytrichum commune, which exhibited the union of two calyptræ, forming a very beautiful illustration of the power of cohesion of two distinct bodies, under favourable circumstances, possessed by the vegetable kingdom, and so commonly represented by united leaves, stems, flower-stalks, &c. The description of the specimen is as follows. *Stem* about three inches high, branched, producing two terminal setæ: *perichætia* distinct: *calyptræ* closely adhering by their hairy covers: *leaves* patent, linear-subulate, the margins not involute, serrated; keel serrated at the tip. The specimen in question is remarkable for its manner of growth, it having two setæ from the apex of the stem, each surrounded by a distinct perichætium; the calyptræ also are united by their hairy covers, thus forming a two-celled calyptra:—the origin of which appears to have been in the development of two setæ from the same axis, and the consequent proximity, and most probably the pressure together, of the outer coverings of the calyptræ, which would cause them to adhere while in a young state, and being thus carried upwards by the elongation of the setæ, formed the monstrosity in question. The above was read before the Botanical Society of London, on the 4th of September, 1840; I have since received similar specimens from G. B. Johns, Esq. found by him on an old wall on the banks of the river Walkham, near Walkhampton, Devon, growing plentifully. There is also in the herbarium of the Bot. Soc. Lond. a specimen of P. juniperinum, collected by Mr. W. Gardiner, jun. of Dundee, at Hare Craigs, near Broughton, exhibiting a similar monstrosity in that species. — *Thomas Sansom*; 2, *Cloudesley St.*, *Islington*, *October* 13, 1841.

65. *Lycopodium Selago detected in Tilgate Forest*, *Sussex*. I was very much pleased last week on visiting Tilgate Forest, to find Lycopodium Selago growing plentifully on the banks of the pond below the bog between Pease-pottage gate and Starve-mouse plain. L. Selago, inundatum and clavatum were all growing in abundance within the space of twenty yards. Exacum filiforme was growing abundantly in the bog, and in great perfection.—*J. A. Brewer*; *Reigate*, *October* 14, 1841.

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* In a letter to E. Newman.

66. *Tragopogon pratensis.* I have not the slightest doubt that the Tragopogon noticed by Messrs. Irvine and Pamplin at Cobham (Phyt. 36), is the true T. pratensis of Linnæus and Smith, (Eng. Bot. t. 434). It is far from being a common plant in England, indeed the only specimens that I have seen are from Sussex (Framfield) and Suffolk, (St. Peters, Southelmham); and it appears to be totally unknown to the majority of English botanists. The more common Tragopogon is, I think, as certainly the T. minor of Fries, as was pointed out several years since by Mr. Leighton.—*C. C. Babington ; St. John's College, Cambridge, Oct.* 16, 1841.

67. *Polypodium Dryopteris and calcareum.* I am much pleased with 'The Phytologist,' which promises to be a very useful medium for exchanging information on botanical subjects; and as you seem to adopt the scrap-book motto, viz. "the smallest contribution thankfully received," I may venture to add a mite. You find Mr. Wilson's opinion coincides with mine, as to the distinctness of the two Polypodia — Dryopteris and calcareum. The pubescence, which is one distinguishing character of P. calcareum, is a beautiful microscopic object, each slender stem supporting a globular head, but this pubescence soon dries, so that only on freshly gathered specimens can it be fully perceived or accurately examined. Though we found P. Dryopteris frequently in Wales, we never met with P. calcareum there; and though, like Mr. Wilson, we have cultivated them side by side for years, we can also testify that their respective characters remain unchanged. — *Meta Riley ; Papplewick, near Nottingham, October* 16, 1841.

68. *Monotropa Hypopitys.* In a note from Dr. Balfour he informs me that he found this plant in August last, in Oak woods, near Cawdor Castle, Nairnshire. I believe this to be the first authentic record of a Scottish habitat.—*Edward Newman.*

69. *Silene nutans*, (Phytol. p. 78). Will your correspondent be good enough to say if the plant grew on or about the Castle previous to the burning? Or are we to regard the circumstance he mentions as a curious parallel to that spoken of by Morison (Dialogus inter Socium &c., p. 495), respecting the sudden appearance of Sisymbrium Irio on the ruins of London, after the great fire of 1666?—*L. H. Grindon ; Manchester, October* 20, 1841.

70. *Quinate Œnothera.* I have been much interested this autumn by finding numerous flowers on a plant of Œnothera grandiflora in my garden, possessed of five sepals, five petals, ten stamens and five to ten stigmas, while the remainder of the flowers on the same individual presented the usual quaternary arrangement of their parts. This may have been observed before, but as it is an interesting fact in Phytology, I send it you for publication if you think proper.—*Id.*

71. *Substitution of Leaves for Petals in a Dahlia.* While upon this subject, I may mention that a Dahlia of mine has this autumn presented the curious substitute of *green leaves* for petals; the whole of the "flower" being composed of thick, fleshy expansions, arranged in an imbricate form, and springing, not from a common receptacle, but in regular verticils on the terminating half-inch or so of the peduncle. A more beautiful illustration of the doctrine of Morphology I have seldom seen.—*Id.*

72. *In the Gardeners' Chronicle* for September 25, 1841, we observe the following correction of an error which appeared in a preceding No., and was copied by us into 'The Phytologist,' p. 80. "*Spurless variety of Dog Violet.*—In our notice of this at p. 599, we unfortunately ascribed its discovery to Mrs. Gye—it should have been Miss Gage." We did not see this until too late for inserting it in our last.—*Ed.*

73. *Eriophorum alpinum.* We are glad to see from a notice in the Gardeners'

Chronicle, p. 662, that this pretty little plant "has been re-discovered in a new situation, about two miles from Dumlanrig Castle." We suspect that this should be Drumlanrig, in Dumfriesshire; if so it is about 90 miles South of the "bog of Restenat, near Forfar," hitherto the only authentic British station for this species, but where for many years it has not been found, in consequence of the bog having been drained. In preparing for publication the second edition of 'English Botany,' it is a pity that the figure of the young Carex dioica should not have been erased from the otherwise characteristic portrait of this Eriophorum, (E. B. 311, and t. 71 of the new edition); at all events we think it ought to have been mentioned in the text, for it is obvious that the figure as it now appears, must mislead those who have not seen the plant itself, unless they have access to Smith's 'English Flora,' where alone, we believe, has the error been noticed.—*Ed.*

74. *Death of M. De Candolle.* Our readers will doubtless have seen numerous notices of the decease of this eminent botanist, which took place at Geneva on the 9th of September; we nevertheless deem it our duty to record an event in which all botanists must feel deeply interested. Seven volumes of M. De Candolle's great work, the 'Prodromus Systematis Regni Vegetabilis,' have already appeared, wherein are described the whole of the Thalamifloræ and Calycifloræ. We may conclude by trusting, with a contemporary, that the eighth volume of the Prodromus "is in so advanced state as to enable his relatives to publish it; but after that, however much there may be to hope, there is more to fear."—*Ed.*

75. *Illustrated Catalogue of British Plants, arranged according to the Natural Orders.* We are glad to see a work bearing the above title announced by Mr. C. E. Sowerby. It is to be published in monthly numbers, each containing 8 plates, or 48 coloured figures, with letterpress.—*Ed.*

ART. XXXIV.—*Proceedings of Societies.*

BOTANICAL SOCIETY OF LONDON.

October 1.—Hewett C. Watson, Esq. F.L.S., vice-president, in the chair. Mr. Baxter, of the Botanic Garden, Oxford, exhibited specimens of *Blechnum boreale*, collected by Miss Mary Beever, in which the margins of the pinnæ were crenate. Mr. B. D. Wardale exhibited specimens of *Carex binervis* and *distans*, and other interesting plants. Mr. Watson exhibited specimens of the following plants:—

1. *Mimulus luteus*, found by him apparently wild and growing abundantly in marshy ground along the north side of the Tay, from half a mile to a mile below Perth; and also from a rill by the roadside, in front of Daenacardock Inn, forest of Athol, Perthshire.

2. A land variety of *Callitriche pedunculata*, from Mr. W.'s garden, supposed to have originally come from Esher Common, and inadvertently made in the fourth edition of Hooker's 'British Flora' a variety of C. autumnalis instead of C. pedunculata, a species with which it perfectly agrees in the elongated peduncle and keeled fruit, the latter being only half the size of the fruit of C. autumnalis.

3. A series of five specimens of *Festuca pratensis* and *loliacea*, showing the intermediate states of the supposed two species. The first was the common form of F. loliacea of British authors, bearing eleven nearly sessile spikelets disposed alternately along the common stalk or rachis, so as to constitute a simple spike or raceme. The second differed by having the peduncles of the spikelets slightly longer, and two of them divided. The third, still a spiked raceme of *Festuca loliacea*, but in the place of the two lower spikelets there were two branches bearing respectively four and six nearly sessile spikelets. In the fourth the form of the panicle was more developed, there being seven principal branches bearing from two to five spikelets each, on very short stalks. In the fifth the spikelets were more decidedly stalked and disposed into a panicle, which had the ordinary appearance of that of *Festuca pratensis* in luxuriant growth. All five specimens

were gathered by the Thames, shortly above the Lock at East Moulsey, the racemose inflorescence distinguishing the specimens which had grown nearer the towing path, where the ground was more dry and stony.

4. *Cnicus pratensis* and *Forsteri*. A series of specimens designed to show that branched plants of *C. pratensis* are referred by botanical authorities to C. Forsteri, and that possibly all specimens of C. Forsteri are luxuriantly developed plants of C. pratensis. Four specimens of C. pratensis were exhibited in its usual state, each having a solitary flower and from one to three crenate leaves on the stem. A fifth differed from these in having two flowers and six leaves on its stem. A sixth specimen from Sir W. J. Hooker, and labelled "C. Forsteri, Weybridge," had also a two-flowered stem, the lower portion of which was absent, but it was accompanied by a leaf somewhat pinnatifid instead of crenate at the edges. Two other specimens, gathered near Whitmoor Pond, Surrey, in June last, presented a still wider variation from the ordinary form of *C. pratensis*, and would be called *C. Forsteri* by most botanists: the stems bore respectively two and four flowers, and eight and ten pinnatifid leaves. Only a single plant had been found by Mr. W., but having six separate stems from the same root, mostly with two or three flowers each. The last specimen exhibited was one that had been collected by Mr. Coleman near East Grinstead. This one differed from the Whitmoor plant in having its leaves more divided and a branched stem bearing eleven flowers, together with the broken peduncles of two or three others. Mr. C.'s specimens closely corresponded with the specimens of C. Forsteri preserved in Smith's herbarium, and is doubtless the true plant. In the absence of the intermediate specimens it would have appeared to be very distinct from *C. pratensis*, but the transition is so strongly established throughout the other specimens as to render it difficult to say where the one alleged species ends and the other commences.' Mr. Watson states the transition is still further aided by a foreign specimen in Smith's herbarium, labelled "Carduus dissectus, (Vill.)" and which has only one flower though many leaves on a stem. Between the Weybridge C. Forsteri, as named by Sir W. J. Hooker, and the two-flowered specimens of *C. pratensis*, there was scarcely a perceptible difference, except in the one pinnatifid leaf of the former and the slightly crenate leaves of the latter; but to counterbalance this difference in foliage Mr. Watson produced two leaves gathered that day from the same plant in his garden, one of which was simply crenate, while the other was pinnatifid; the plant from which they were plucked being an undoubted *C. pratensis*.

5. *Juncus lampocarpus* and *nigritellus*. A series of specimens to show that J. nigritellus of English botanists is identical with J. lampocarpus, unless in some cases where small specimens of J. acutiflorus pass under the same name. Mr. Watson believed that J. nigritellus might originate in two ways from J. lampocarpus: occasionally small feeble plants of the latter, with very few clusters of flowers, are named J. nigritellus, but perhaps more usually this alleged species is represented by detached shoots or branches of J. lampocarpus, produced by the flower-stalk being trodden down by cattle or laid prostrate by wet weather; various changes are thus made in its inflorescence; one of the variations being seen in the production of roots at the joints of the stem, and the shooting up of secondary branches, terminated by a few clusters of flowers. As the old stem decays, these branches, being rooted at the base, become distinct plants and are gathered as J. nigritellus, as was shown by specimens on the table. It was Mr. Watson's opinion that several of our alleged species are in fact only extreme forms of some one or two other species. In speaking of *one* alleged species being the extreme forms of *two* other species, he meant that the varieties of the two might be so much alike as to be combined into a third supposed species by those botanical writers who describe plants from dried specimens, and also do not supply their herbaria with series of specimens sufficient to illustrate the range of variation for each species.

A letter was read from Mr James Rich, of Mahon, giving an account of a botanical excursion made by him to Majorca. Mr. R. having left Mahon in the latter part of April, reached Palma after a sail of four days, from whence he proceeded to Valldemosa, about eight miles distant, which Mr. R. remarks is "a place of extreme beauty amongst the mountains; in some places the rocks rise to an immense height, almost perpendicularly from the road, with their grey-looking solitary peaks generally buried in clouds. At their bases the luxuriance of the vegetation is unmatchable, but as you look higher up you see nothing but a stunted oak or a pine (Quercus Ilex and Pinus halepensis), growing as it were out of the solid rock." The following plants are a portion of those collected by Mr. R. for the Society's collection, viz.—Punica granatum, Asphodelus ramosus and fistulosus, Lonicera inflexa, Iris sisyrinchium, Hypericum Balearicum, Delphinium staphysagria, Ceterach officinarum, Sedum altininum, Salvia clandestina, Origanum majoricum, Thymus filiformis, Verbascum sinuatum, and a number of others which, although common to England, are exceedingly interesting in a geographical point of view. Mr. R.'s next journey was to Soller, about fifteen miles distant from Palma, and three miles from the sea, the details of which he has promised to give in his next letter, and concludes the present with a list of species added to his former collection, amongst which we observed Althæa hirsuta, Lavendula spicata and dentata, Bellis annua, Tragacanthus poterium, Hedysarum spinosissimum, Psoralea bituminosa, Cytisus spinosa and argenteus, Anchusa angustifolia, and Anagallis phœnicea; most of which were collected on the road from Valldemosa to Soller, near the base of the mountains, some of which rise to an altitude of near 5000 feet above the sea.—*T S.*